

Description of eggs and young of the Fox Kestrel *Falco alopex* in Niger

by Joost Brouwer & Wim C. Mullié

Received 9 September 1999

The Fox Kestrel *Falco alopex* is a poorly known raptor endemic to the Sahel. A computer literature search in Zoological Record produced no references and there is also not a single reference to it in Dowsett *et al.* (1997). Details of the species are given in handbooks (Brown *et al.* 1982, Del Hoyo *et al.* 1994) or distributional lists (e.g. Balança & De Visscher 1993, Bretagnolle 1993). The species breeds during the rains or late dry season, depending on location (Brown *et al.* 1982, Elgood *et al.* 1994). Brown *et al.* (1982) and Del Hoyo *et al.* (1994) state that it lays 2–3 eggs. The eggs resemble those of kestrels, being round ovals, buff or reddish with darker red spots. Brown and colleagues also mention that there is no accurate description of the downy young, but that they are probably white.

In south-west Niger, Fox Kestrels are quite frequently seen near steep cliffs that offer suitable locations for breeding, and probably also for roosting (Giraudoux *et al.* 1988, pers. obs.). Such cliffs are found for instance just west of the capital, Niamey, as well as along the Niger river 20 km further south, where several pairs of Fox Kestrels live. Many more such cliffs are found along the Dallol Bosso, a relatively narrow (5–15 km) rift valley, between Birini N°Gaouré (13°41'N, 2°54'E) and Filingué (14°21'N, 3°19'E), 100 km east of Niamey. These cliffs consist of sandstone from Continental Terminal deposits of Tertiary age, and in their faces are many small ledges and cavities, suitable for nesting. The average annual rainfall in the area is 4–500 mm (Sahel zone). The natural vegetation below the cliffs consists of open shrub land on sandy soil, now mostly cleared for pearl millet cultivation. On the plateaux at the top of the cliffs the vegetation is mostly tigerbush, a type of patterned vegetation where bands of crusted bare soil alternate with dense bands of 2–6 m high bushes. The bands run more or less parallel to the contours and each band is 10–30 m wide.

During the breeding season we have found pairs of Fox Kestrels at a minimum of six different locations in the Dallol Bosso. In our third year of excursions to the Dallol we finally found an accessible nest, on 4 June 1994, 12 km south-west of Baleyara, in the cliffs next to the road to Yadé, between Kogori and Sandiré (13°41'N, 2°54'E). The nest was *c.* 2.5 m up a vertical, 10 m high cliff, located at the top of a scree slope 12–15 m long. The nesting site was a hole 25 cm high, 15 cm across and 60 cm deep. On the bare floor, 15 cm from the entrance, there were 4 eggs, buff with dark red markings as described by Brown *et al.* (1982). On a subsequent visit, on 12 June, the nest was inspected from *c.* 3 m below the nest entrance, using a mirror attached to an aluminium tube. There were two downy young, approximately 1–2 days old, and two eggs. The colour of the young was pale greyish-buff, approximately matching the colour of the surrounding sandstone. The cere were orange. The young

were very noisy, constantly calling shrilly, and could be heard from the foot of the escarpment. This attracted our attention as soon as we arrived at the spot. On the ground immediately below the nest were the remains of an unidentified lizard and of grasshoppers. Insects and lizards are mentioned as food items by Brown *et al.* (1982). By the time of the next visit, later that month, the young had disappeared, probably taken by local youths.

The first rains in 1994 in the greater Niamey area occurred in late April, but the rainy season did not start in earnest until late May. Assuming an incubation time of 33 days, like that of the similarly sized Greater Kestrel *F. rupicoloides* (Brown *et al.* 1982), the first egg must have been laid just before 10 May. Breeding of this pair of Fox Kestrels therefore started around the beginning of the rainy season, in agreement with Brown *et al.* (1982) and Del Hoyo *et al.* (1994). The presence of young in June has also been noted in 1968 and 1969 in nests near Niamey and Dogondoutchi, both less than 100 km from the nest here described (P. Souvairan pers. comm.). In addition, we have observed Fox Kestrels, both singly and in pairs, moulting their primaries during July and August at a number of locations in the Dallol Bosso. Assuming that the primaries are moulted post-breeding, as they are in the Common Kestrel *F. tinnunculus* and the Lesser Kestrel *F. naumanni* (Cramp & Simmons 1980), the timing of the observed moulting also points to breeding during the early rainy season.

We note that there were four eggs, not the 2–3 mentioned in the literature. The pale buff colour of the downy young, not white as provisionally mentioned by Brown *et al.* (1982), is unlikely to have been due to dust in the rains. This dust is much redder (cf. Brouwer *et al.* 2000), and rain could not enter the nest hole. The young were only 1–2 days old when their down colour was noted. The downy young of the Greater Kestrel *F. rupicoloides*, arguably the closest relative of the Fox Kestrel (Brown *et al.* 1982), are also pale buff, while the young of the other kestrels in that taxonomic group, the Common Kestrel *F. tinnunculus* and the Lesser Kestrel *F. naumanni*, have white first down. These latter two species also show a clear adult sexual dimorphism which is absent from the Greater and Fox Kestrels. The Fox Kestrel and the Greater Kestrel may indeed be allospecies, quite similar in appearance, showing almost no overlap in their complementary distributions, and together covering almost all of semi-arid sub-Saharan Africa.

Acknowledgements

With thanks to the late Pierre Souvairan and Pascal Dupont for additional information, to Ans Brouwer for help with the references, and to Rob Bijlsma and Hilary Fry for helpful comments.

References:

- Balança, G. & De Visscher, M.-N. 1993. Notes sur les oiseaux observés sur le Plateau Dogon au Mali. *Malimbus* 14: 52–58.
- Bretagnoll, F. 1993. An annotated checklist of birds of north-eastern Central African Republic. *Malimbus* 15: 6–16.
- Brouwer, J. & Mullié, W. C. & Souvairan, P. 2000. Colour of the downy young and notes on breeding of the Grasshopper Buzzard *Buteo rufipennis* in Niger. *Malimbus* 22: 34–37.

- Brown, L. H., Urban, K. H. & Newman, K. 1982. *The birds of Africa*. Vol. 1. Academic Press, London.
- Cramp, S. & Simmons, K. E. L. (eds) 1980. *The birds of the Western Palearctic*. Vol. II. Oxford Univ. Press.
- Del Hoyo, J., Elliott, A. & Sargatal, J. (eds) 1994. *Handbook of the birds of the world*. Vol. 2. Lynx Edicions, Barcelona.
- Dowsett, R. J., Fry, C. H. & Dowsett-Lemaire, F. 1997. *A bibliography of Afrotropical birds, 1971–1990*. Tauraco Res. Rep. 7. Tauraco Press, Jupille, Liège.
- Elgood, J. H., Heigham, J. B., Moore, A. M., Nason, A. M., Sharland, R. E. & Skinner, N. J. 1994. *The birds of Nigeria. An annotated check-list*. BOU Check-list no. 4, 2nd edition. British Ornithologists' Union, Tring.
- Giraudoux, P., Degauquier, R., Jones, P. J., Weigel, J. & Isenmann, I. 1988. Avifaune du Niger: état des connaissances en 1986. *Malimbus* 10: 1–140.

Addresses: Joost Brouwer, Brouwer Environmental and Agricultural Consultancy, Wildekamp 32, 6721 JD Bennekom, The Netherlands, e-mail brouwbar@bos.nl; Wim C. Mullié, c/o Projet Locustox, BP 3300, Dakar, Senegal, e-mail mullie@metissacana.sn

© British Ornithologists' Club 2000

Occurrence of the Cape Verde Shearwater *Calonectris edwardsii* on the Brazilian coast

*by Maria Virginia Petry, Leandro Bugoni &
Vanda Simone da Silva Fonseca*

Received 18 October 1999

The Cape Verde Shearwater, *Calonectris edwardsii*, was described as a species by Oustalet (1883), and was later treated as a subspecies of Cory's Shearwater, *Calonectris diomedea*, although it was diagnosed as distinctly and easily separable from the latter. The phylogenetic analysis of the group, recently performed by Hazevoet (1995), indicates that the subspecies of *Calonectris diomedea* (*C. d. diomedea*, *C. d. borealis* and *C. d. edwardsii*) form an apparently paraphyletic group. For this reason Hazevoet considered valid the specific status given to the Cape Verde Shearwater. Since then, other authors have treated this biological form as a full species (e.g. Sibley 1996, Porter *et al.* 1997, Olmos & Martuscelli, in press).

Calonectris edwardsii is endemic to the Cape Verde Islands where it breeds in large colonies (Enticott & Tipling 1997), estimated at 10,000 breeding pairs (Hazevoet 1994). Information regarding its migration is scarce. It is, however, known that they are absent from the Cape Verde Islands during the non-breeding period (Cramp & Simons 1977). These authors suggest that the small number of individuals of *C. diomedea* which winter in western Africa could be *C. edwardsii*. Porter *et al.* (1997) also remark that the species probably disperses towards the South Atlantic.

Presumed immatures linger in the South Atlantic into the southern winter, and up to 20 birds/km were wrecked all down the east coast of Brazil (Lima 1994, Olmos *et*